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Conference Abstract

Biodiversity of Bulgaria: Characteristics, protection and trends

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Abstract

Bulgaria is a medium-sized country located in the eastern part of the Balkan Peninsula. It hosts a rich mycota, flora and fauna, and quite well preserved natural and semi-natural ecosystems. This is mostly due to the country's geographic position between the temperate and subtropical zones, the complex geological history, and the big topographic variety. The high species diversity and endemism determine the high conservation value of Bulgarian biodiversity.

The Bulgarian flora consist of more than 4,100 species, including more than 45 species of ferns, 250 species of mosses, and 2,800 higher plant species. The animals established in the country belong to 28 phyla and 75 classes. Vertebrates (858 species) comprise 2.7% of the Bulgarian fauna: 242 fishes and fish-like taxa; 24 amphibians; 40 reptiles; 452 birds; and 101 mammal species. Invertebrates account for more than 31,000 species. Over the past 25 years the number of known animals in the country has increased by over 4,500 species: from 29,000 in 1996 to 33,545 species in 2020. The total number of endemic animals is about 1,400 (4.2%). In some groups, the percentage of endemism is very high (95.5% of snails from the family Hydrobiidae and 71% of Clausiliidae; 53.6% of Diplopoda; 50.0% of terrestrial Isopoda). The richest endemic areas in Bulgaria are mostly in the mountains: Rila Mt.- 268, Pirin Mt. - 220, Western Stara Planina Mt. - 184, Western

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Rhodopes Mts - 183, and the Central Stara Planina Mt. – 181. Molecular data for Bulgarian animals is still insufficient, although Bulgaria ranks among the top 10 European countries in the proportion of the DNA-barcoded animal taxa; sequence coverage of animal specimens in Barcode of Life data System (BOLD) amounts to approximately 36,000 sequences from more than 7,100 Barcode index numbers (BINs).

Bulgaria is part of large-scale initiatives of the European research infrastructure such as the Distributed System of Scientific Collections (DiSSCo) and the MOBILISE COST Action, with mass digitization of museum collections currently underway.

Legislation to protect nature in Bulgaria dates back to the end of the 19th century and covers forestry (1890), the protection of certain species (1890's) and hunting (1897). Organized civil movements resulted in the establishment of the Union of Nature Protection (1928), the designation of several nature reserves (1933), and the first National Park (1934). More specific regulation followed with Ordinance for the Protection of Nature (1936). The Red Data Book of Bulgaria was published as early as 1984 (vol. 1, Plants) and 1985 (vol. 2, Animals), with a second updated edition in 2011. Bulgaria is also among the first countries to prepare a National Strategy for Biodiversity Protection (1993, adopted in 1998) following the Convention on Biological Diversity (CBD) process. Since then, several national plans for protection of biodiversity have been adopted including assessments of the threats, objectives, and measures for their achievement.

According to recent references, such as the Red Data Book (Beshkov 2011) and the Article 17 reports of 2014 and 2020, the main threats to biodiversity in Bulgaria at the beginning of the 21st century have been human induced degradation: fragmentation and loss of habitats; industrial, agricultural and household waste pollution; direct exploitation of biological resources; genetic ingression and invasive alien species; and global climate change effects. A set of drivers for the loss of biodiversity is related to agriculture and land management, including the whole spectrum from intensification to the abandonment of traditional land, and wetland management practices.

Keywords

species diversity, threats, trends, endemism, legislation, conservation

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